PATENT SPECIFICATION

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Complete Left: Aug. 22, 1922.

Complete Accepted: Feb. 1, 1923.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Carburettors.

I, GEORGE CONSTANTINESCO, of "Carmen Sylva," Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, a subject of the King of Great Britain and Ireland, do hereby declare the nature of this invention to be as follows:—

The present invention relates to carburettors, particularly of the inverted jet type, such, for example, as that described in Patent Application No. 24,437/1921.

In such carburettors when the throttle is nearly closed, the air flow through the induction pipe is such that its vertical component gives rise to a back pressure on the jet which interferes with the petrol flow, particularly when a butterfly throttle is employed, which when closed lies at considerable inclination to the axis to the induction pipe.

The object of the present invention is to avoid this back pressure in the jet and to ensure correct petrol flow at all throttle positions.

The invention consists in the employment in the neighbourhood of the jet of an air guard or baffle, in order to minimise the effect of the vertical component of the air flow.

The invention further consists in surrounding the opening of the jet with a guard of cylindrical or conical form forming a space around the jet from which free outflow can take place on the engine side with restricted inflow for the incoming air.

The invention further consists in the improved constructon of carburettor hereinafter described.

In carrying the invention into effect in a very simple form applied to a carburettor in which the jet is situated immediately above the throttle valve spindle, there is provided surrounding the jet outlet, a conical member having its apex in close proximity to the throttle valve spindle and having on the engine side a slot allowing free outlet towards the engine. Small perforations are provided in the conical member on the inlet side so that a certain vaporisation and mixture of petrol and air takes place within the conical chamber formed around the jet.

According to another modification of the invention, a cylindrical guard is provided extending completely across the induction pipe, the throttle valve and spindle being suitably constructed to allow this arrangement. A free outlet is provided from the cylindrical guard on the engine side with restricted air inlets through which the incoming air can pass into the cylindrical chamber and mix with the petrol dropping from the jet.

Dated the 22nd day of November, 1921.

W. GRYLLS ADAMS,
87, Victoria Street, London, S.W. 1,
Chartered Patent Agent.

COMPLETE SPECIFICATION.

Improvements in and relating to Carburettors.

I, GEORGE CONSTANTINESCO, of "Carmen Sylva," Beechwood Avenue, Oatlands Park, Weybridge, in the County of Surrey, a subject of the King of Great Britain and Ireland, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

The present invention relates to carburettors of the type in which an inverted jet is employed and in which a butterfly valve is placed immediately below the jet. In such carburettors when the butterfly throttle valve is nearly closed, the air flow through the induction pipe is such that its component parallel to the axis of the jet gives rise to a back pressure on the jet which interferes with the fuel flow, as the butterfly valve when

nearly closed lies at a considerable inclination to the axis of the induction pipe.

The object of the present invention is to avoid this back pressure in the jet and to ensure correct petrol flow at all throttle positions.

The invention consists in the employment in the neighbourhood of the jet of an air guard or baffle, in order to minimise the effect of the vertical component of the air flow.

The invention further consists in surrounding the opening of the jet with a guard of cylindrical or conical form forming a space around the jet from which free outflow can take place on the engine side with restricted inflow for the incoming air.

The invention further consists in the improved construction of carburettor hereinafter described.

Referring to the accompanying drawings:—

Figures 1 and 2 are two sections at right angles of a carburettor constructed according to the invention;

Figure 3 is a plan partly in section.

Figure 4 is an outside view of the carburettor;

In carrying the invention into effect according to the example illustrated, the float chamber *a* and a portion of the induction pipe *b* are cast in one piece in the form shown. Screwing into the bottom of the float chamber there is provided a sleeve *c* projecting above the level of the petrol in the float chamber when the engine is running.

Projecting downwards from the cover *d* of the float chamber, there is provided a sleeve *e* in a central position and surrounding the sleeve *c*.

The jet *g* is screwed into the lower end of a central rod *h* which screws into the top of the sleeve *c*.

The float consists of corks *k* attached to the free ends of a hinged member *l* of the form illustrated having bent portion which is hinged to a spindle *m* and which bears against the needle valve *n* controlling the flow of petrol into the float chamber.

At one side of the float chamber, there is provided a passage *o* leading through a restriction *p* from the induction pipe *b* to the interior of the sleeve *e*. A disc valve *q* controls a passage leading from the main space within the float chamber into the passage *o* to limit the suction effect which can be obtained inside the sleeve *e*.

The throttle valve *r* is placed immediately below the jet *g* between the choke tube *s* and the engine. A slotted plug *t* is provided adapted to control the flow of air into the float chamber.

Surrounding the jet and projecting into the induction pipe there is provided an inverted conical member *u* having apertures *v* on the inlet side and a slot *w* on the induction side the cross sectional area of the slot *w* being greater than the total cross sectional area of the apertures *v*; and a small aperture *y* is provided in the throttle close to the spindle. The conical guard *u* thus serves to prevent the air flowing in through the induction pipe from impinging on the jet and creating a back pressure when the throttle valve is in the nearly closed position. The baffle member *u* may be constructed of other forms than that above described, for example, it might be made cylindrical extending completely across the induction pipe, the throttle valve and spindle being suitably constructed to allow of this arrangement, the essential feature of the invention being the provision of a guard having restricted apertures on the inlet side and a freer outlet on the engine side. A small chamber is thus formed around the jet in which a mixture of petrol and air is produced.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A carburettor of the type described having in the neighbourhood of the jet an air guard or baffle arranged so as to minimise the effect of the vertical component of the air flow in the induction pipe, substantially as described.

2. A carburettor of the type described having the opening of the jet surrounded by a guard of conical or cylindrical form, forming a space around the jet from which free outflow can take place on the engine side with restricted inflow for the incoming air, substantially as described.

3. In a carburettor as claimed in Claims 1 and 2, an aperture in the throttle in the neighbourhood of its centre, substantially as described.

4. The improved carburettor hereinbefore described and illustrated in the accompanying drawings.

Dated this 22nd day of August, 1922.

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87, Victoria Street, London, S.W. 1,
Chartered Patent Agent.

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Fig.1.

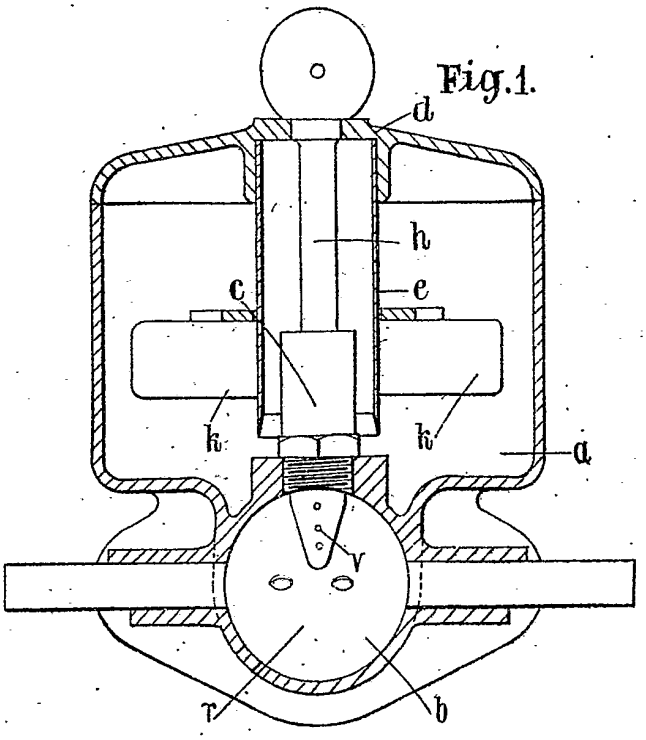

Fig.2.

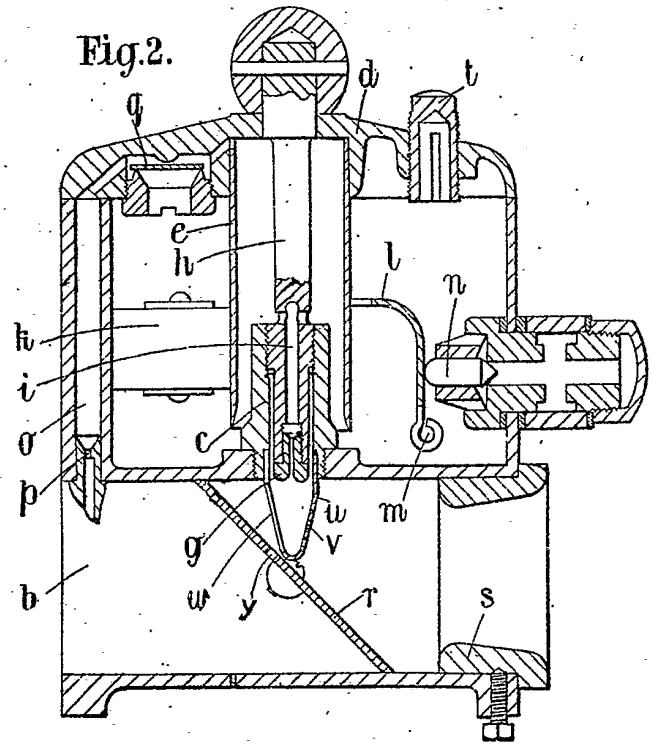

Fig.3.

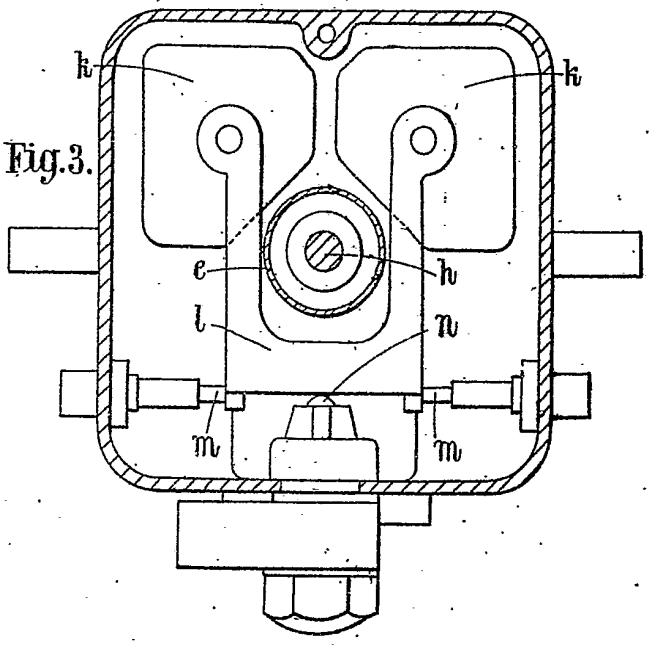

Fig.4.

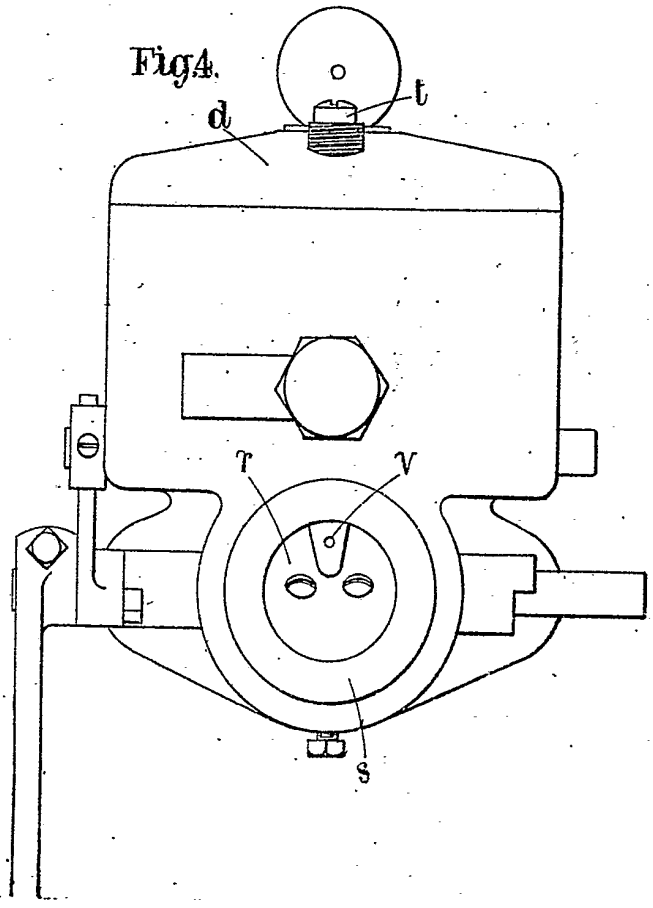

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Fig.1.

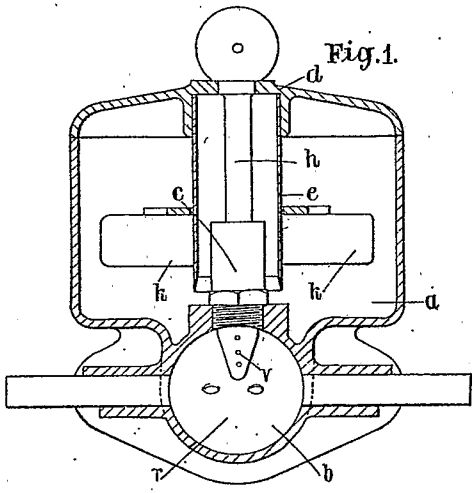


Fig.2.

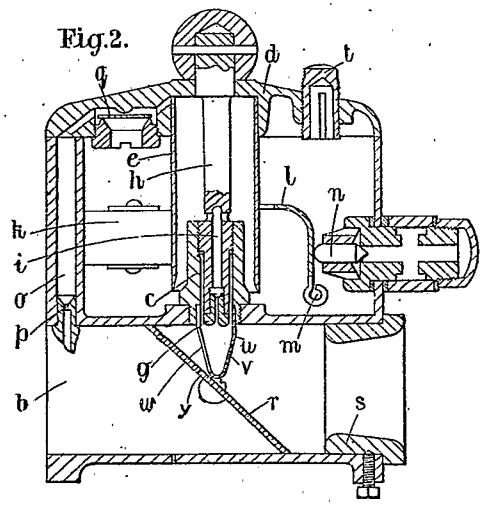


Fig.3.

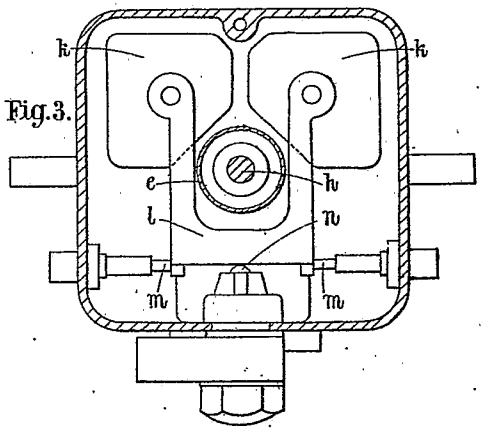
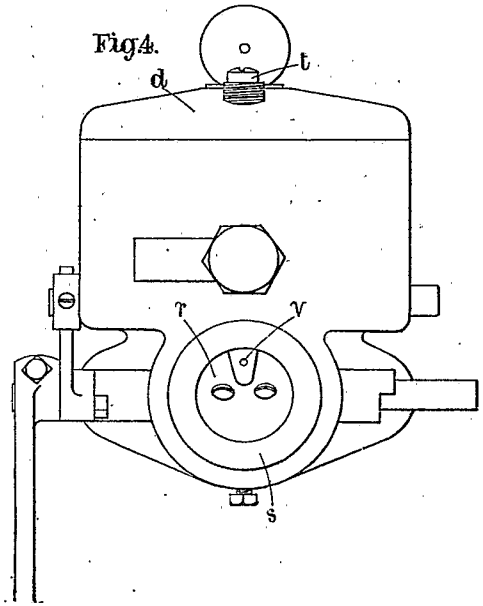


Fig4.



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